DETERMINANTS OF COMMUNITY EMPOWERMENT INFLUENCE ON PREVENTION OF DENGUE HEMORRHAGIC FEVER (DHF)

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ABSTRACT

Background: Dengue hemorrhagic fever cases in Indonesia increased significantly (2008-2010), the number of cases in 2008 was 137,469 cases (IR 59.02) and 1,187 deaths, (CFR 0.86) then it increased to 154,855 cases (IR 66.48) and 1,384 deaths (CFR 0.89) in 2009. In 2010 there were155, 777 cases (IR 65.57) with a total number of 1,358 deaths (CFR 0.87).

Purpose: to know the effect of the determinants of community empowerment on the prevention of dengue hemorrhagic fever (DHF), in Mekar Sari Village, Asahan Regency in 2020.

Research method used in this study was an analytic correlation survey with a cross sectional study approach. The total population was 5523 residents. The sample was obtained using Slovin formula with random sampling and it was obtained as many as 60 residents. The data used are primary and secondary data. Data analysis used univariate, bivariate.

Results showed that there was an influence of people’s knowledge on the prevention of dengue hemorrhagic fever (DHF). The p-value showed p = 0.031, and there was an influence of people’s attitudes towards the prevention of dengue hemorrhagic fever (DHF). It was obtained that p-value was 0.003

Conclusion: there was an effect of access to health information on prevention dengue hemorrhagic fever (DHF) with p = 0.000.

Suggestion: It is hoped that the community will carry out health empowerment such as routine mutual cooperation so that they live healthy and prosperous lives.

Keywords: Access to Information, Attitude, Dengue Hemorrhagic Fever (DHF), Knowledge,
INTRODUCTION

Dengue fever is a problem in the community and is a febrile disease caused by dengue virus transmitted through the bite of the Aedes aegypti mosquito to humans. Indonesian territory is an endemic area where the dengue hemorrhagic fever disease spreads throughout the country so that dengue hemorrhagic fever (DHF) can occur, especially in the rainy season. Dengue hemorrhagic fever (DHF) has symptoms such as fever that goes up and down, severe headache, experiencing pain behind the eyeball, and experiencing nausea, and then if these problems are not immediately treated, there will be bleeding such as nosebleeds coming out of the nose and bleeding gums. In addition, there is redness that occurs on the surface of the body or skin of people with dengue hemorrhagic fever (Akbar and Syaputra, 2019).

Currently, dengue hemorrhagic fever (DHF) is a problem that has social and economic impacts both in the world and in Indonesia. Regarding the social problems caused by dengue hemorrhagic fever (DHF), the problems can be in the form of family anxiety and panic, the death of a family member, and reducing the life expectancy of the family. Then, the economic problem caused by dengue hemorrhagic fever (DHF) is that parents have to spend a lot of money for the treatment given that it takes a long time to recover from dengue hemorrhagic fever (DHF) and to improve the health. In addition, if a family member who is already working experiences dengue hemorrhagic fever (DHF), he will lose time to work because he has to be treated in the hospital. Moreover, there are other expenses such as food costs for those who look after the sick, transportation costs for those who have to go back and forth to the hospital, and accommodation costs while in hospital to take care of the family member who experiences dengue hemorrhagic fever (DHF) (Divy, Sudarmaja, and Swastika, 2018).

Dengue hemorrhagic fever (DHF) is a disease that almost occurs every year in Indonesia, such as at the end of the rain. Moreover, there are many cases of dengue hemorrhagic fever (DHF) which resulted in illness and even death.

Indonesia has a high risk of contracting dengue hemorrhagic fever because the dengue virus and its mosquito-borne Aedes aegypti are widespread in rural and urban areas, both in homes and in public places, except in areas where the altitude is high, which is more than 1,000 meters above sea level. The tropical climate also supports the development of this disease in which the physical environment (rainfall) which causes high humidity levels is a favorable condition for the development of this disease (Purwaningsih, Widyanto, and Widijanto, 2017).

Improving the public health status can be done by persuading the community to live a clean and healthy life. In addition, it is also can be realized by doing promotive and preventive actions for people who are weak and who do not have the enthusiasm and knowledge to access productive resources or people who are left behind or far from adequate facilities. The goal of empowering the community is to carry out community independence, especially in improving the economy and the standard of family life and optimizing the resources they have. In terms of social aspects, people in rural areas protect forests and animals and it is also carried out to increase the standard of living of the community. The community’s ability to improve the economic level can improve the health status so that the community does not experience a lot of illness and death. The efforts made by the community can create jobs and increase adequate strength and capabilities (Manalu and Munif, 2016).

Dengue hemorrhagic fever (DHF) cases in Indonesia increased significantly in 2008–2010. The number of cases in 2008 was 59% while those who died were 0.8%, and there was an increase of 66.4% dengue hemorrhagic fever (DHF) cases; in addition, there were 0.9% deaths in 2009, and in 2010 there was a decrease to 66% but the mortality rate remained 0.87% (HAMIDA, 2017).

The results of Riskesdas in 2013 show the data on environmental health conditions both in terms of residence (home), a healthy and clean community residential environment. The condition of community settlements in North Sumatra Province shows that as many as 45% of households have 4 or more children. Thus, it can be said that there is population density so that it can cause public health problems. The use of rooms has met the requirements, namely separate rooms, clean house conditions, and adequate lighting, but there are only few windows and ventilation (Astuti, Fuadzy, and Prastyowati, 2016).

The environmental condition that affects the increase in the incidence of dengue hemorrhagic fever (DHF) is poor sanitation, the presence of larvae in the water storage, installation of wire netting in households, and population density. The habits that are detrimental to health and lack of attention to environmental hygiene will increase the risk of dengue transmission. Those habits will get worse when people find it difficult to get clean water, so they tend to store water in water reservoirs, then because the water storage are rarely washed and cleaned, it will eventually become a breeding ground for Ae.
In providing promotion to the community, efforts have been made to change the community for a better quality of life. In addition, in the global strategy of promotion, community participation is carried out so that it further improves the quality of the community (Hulu et al., 2020).

In improving the public health, it is necessary to control the community, especially in handling dengue hemorrhagic fever (DHF) cases in order to reduce the morbidity and mortality due to dengue hemorrhagic fever (DHF). This study aimed to determine community participation in controlling dengue hemorrhagic fever (DHF) in Mekar Sari village, Asahan Regency.

RESEARCH METHODOLOGY
The research design used in this study was descriptive correlation with a cross sectional research design. The aim of this study was to determine the influence of the determinants of community empowerment on the prevention of dengue hemorrhagic fever. This study was carried out on December 2019 to October 2020. The population in this study was Mekar Sari Village residents as many as 5523 people. The sample in this study was 60 people that were obtained using Slovin formula with random sampling. This study used primary and secondary data. Then, data analysis technique used was univariate and bivariate analysis.

RESEARCH RESULTS
Univariate Analysis
The characteristics of the head of the family from the Mekar Sari Village who became respondents in this study are based on age, gender, people’s knowledge, people’s attitudes, access to health information and dengue hemorrhagic fever (DHF) prevention, namely:

The table 1 above shows that the age of the respondents, the head of the family in Mekar Sari village, is 35-50 years as many as 42 people (70.0%), and those aged 51-80 years are as many as 18 people (30.0%). The gender of the respondents is 38 males (63.3%) and 22 females (36.3%). Then people’s knowledge shows that 32 residents of Mekar Sari village have good knowledge of dengue hemorrhagic fever. People’s attitude shows that 41 residents of Mekar Sari village have good attitude or thought in preventing the occurrence of dengue hemorrhagic fever in the village. Then, access to health information shows that 49 residents of Mekar Sari village have received information about dengue hemorrhagic fever, and dengue prevention shows that 51 residents of Mekar Sari village have conducted prevention against dengue hemorrhagic fever in the village.

Table 1
Frequency Distribution of Head of Family Respondents Based on Age, Gender, People’s Knowledge, People’s Attitudes, Access to Health Information and Dengue Hemorrhagic Fever (DHF) Prevention in Mekar Sari Village, Asahan Regency in 2020

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total (n)</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-50</td>
<td>42</td>
<td>70,0</td>
</tr>
<tr>
<td>51-80</td>
<td>18</td>
<td>30,0</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>38</td>
<td>63,3</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>36,3</td>
</tr>
<tr>
<td>People’s Knowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>32</td>
<td>53,3</td>
</tr>
<tr>
<td>Moderate</td>
<td>11</td>
<td>18,3</td>
</tr>
<tr>
<td>Less</td>
<td>6</td>
<td>10,0</td>
</tr>
<tr>
<td>People’s attitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>41</td>
<td>68,3</td>
</tr>
<tr>
<td>Moderate</td>
<td>11</td>
<td>18,3</td>
</tr>
<tr>
<td>Less</td>
<td>8</td>
<td>13,3</td>
</tr>
<tr>
<td>Access of Health Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is information</td>
<td>49</td>
<td>81,6</td>
</tr>
<tr>
<td>There is no information</td>
<td>11</td>
<td>18,3</td>
</tr>
<tr>
<td>The Prevention of DHF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conducted</td>
<td>51</td>
<td>85,0</td>
</tr>
<tr>
<td>Unconducted</td>
<td>9</td>
<td>15,0</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100,0</td>
</tr>
</tbody>
</table>
Bivariate Analysis

The Effect of Knowledge on Prevention Dengue Hemorrhagic Fever (DHF)

Based on the table 2 above, the bivariate analysis of people’s knowledge on dengue prevention shows that respondents with good knowledge of dengue prevention are 32 people (53.3%), with moderate knowledge as many as 22 people (36.3%) and 6 people with less knowledge (10.0%). The p-value shows p = 0.031 or p > 0.05, which means that there is an effect of people’s knowledge on the prevention of dengue hemorrhagic fever (DHF) in Mekar Sari Village.

People’s knowledge about the importance of protecting the environment from dengue hemorrhagic fever (DHF) and dengue hemorrhagic fever (DHF) prevention can affect the respondents’ behaviors. According to Wawan’s theory, better knowledge will affect the attitude of the people, and vice versa, which means that if the knowledge is negative, the attitude will also be negative. This is in line with a study conducted by Waruwu Sukartini & Indrawati (2014) stating that there was a significant relationship between knowledge and maternal behavior in PSN – DHF. Then, the study also explains that someone who has a high level of knowledge means that the behavior in the PSN DHF is also high.

The results of the interviews conducted by the researchers with several respondents and village officials in Mekar Sari Village showed that they had received counseling about prevention of dengue hemorrhagic fever (DHF), but the implementation of the counseling is not continuous. In carrying out the

DISCUSSION
activities both in the framework of promotive and preventive activities, it is necessary to conduct counseling in terms of prevention, providing counseling to the community to live a healthy and clean life, providing information to people in seeking information about the prevention of dengue hemorrhagic fever (DHF) that they have received.

It is in line with a study conducted by Nur Aisha (2014) showing that 62% of people involved in her study had good knowledge of dengue prevention. In one’s belief this will form positive community behavior. Then, regarding knowledge of lifestyle in preventing dengue hemorrhagic fever (DHF), fogging was carried out and and environmental hygiene programs were carried out for 3 days.

Knowledge in this case is knowledge about clean and healthy living behavior especially in preventing dengue hemorrhagic fever (DHF). Having adequate knowledge will affect the behavior of the community, especially in carrying out daily activities. If a person or community has adequate knowledge regarding his health, he will carry out hygiene activities both to take care of himself, his family and the wider community.

The results of this present study conducted in Mekar Sari Village showed that people in Mekar Sari village still had less knowledge about dengue hemorrhagic fever (DHF). It is based on the results of respondents’ answers of whether they have or never heard about dengue hemorrhagic fever (DHF), the causes of dengue hemorrhagic fever and how it is transmitted. The lack of knowledge about dengue hemorrhagic fever (DHF) is surely in line with the emergence of the risk of developing dengue hemorrhagic fever (DHF). Thus, if the family in particular has sufficient knowledge about dengue hemorrhagic fever, it will be able to avoid the risk of its development. However, there is no always a relationship between knowledge and behavior because it is possible for people who have good knowledge may behave contrary to his own knowledge.

The residents of Mekar Sari village also only carried out disease prevention measures, especially dengue hemorrhagic fever as suggested by the public health centers and they only just accepted what has been recommended from the public health center without wanting to know the benefits of the actions they carried out. The results of this study are in line with a study conducted by Hidayat (2009) showing that although the level of knowledge of the respondents was included in the good category (90.4%), in the implementation of dengue hemorrhagic fever (DHF) prevention practices there were only 17.8% of respondents who practiced dengue hemorrhagic fever (DHF) prevention practices well; thus, that caused the high rate of dengue hemorrhagic fever (DHF) incidence.

In this study, the respondents have known about the danger symptoms of dengue hemorrhagic fever patients. Then, their preventions were in the form of carrying out a healthy and clean life, especially in the rainy season.

The results of this study also showed that out of 60 heads of families, 31 (54.4%) people knew that installing mosquito nets was more effective in preventing dengue mosquito bites, but based on their answers they preferred using mosquito repellent to mosquito nets because installing mosquito nets was quite complicated and they were lazy to install the mosquito net.

Based on the results of the study, people’s knowledge had no effect on prevention of dengue hemorrhagic fever (DHF). It is because the villagers do not have the will to prevent dengue hemorrhagic fever although they know about dengue fever and how to empower in preventing it. It is in line with the questions used by the researchers in interview about how to avoid mosquito bites causing dengue hemorrhagic fever, out of 60 heads of families, there were 31 (54.4%) people who know about dengue hemorrhagic fever but they had less will to apply their knowledge in the prevention of dengue hemorrhagic fever (DHF).

This is due to the uneven distribution of socialization by the public health centers to the community, so that some residents only get information through talks with other people, or not at all. Lack of knowledge about the fundamental information regarding dengue hemorrhagic fever (DHF) can affect the preventive actions taken by the community. Thus, knowledge or cognitive is a very important domain for the formation of one’s actions. If the socialization carried out to the community can be evenly distributed, the preventive actions taken by the community can be better.

The Effect of People’s Attitude on Prevention Dengue Hemorrhagic Fever (DHF)

Based on table 2 bivariate analysis, people’s attitude towards dengue hemorrhagic fever (DHF) prevention showed that 41 respondents had good attitude towards dengue prevention (68.3%), 11 people (18.3%) with moderate attitude and 8 people with (13.3%) poor attitudes. The p-value showed p = 0.003 or p > 0.05, which means that there is an influence of people’s attitudes on preventing dengue hemorrhagic fever (DHF) in Mekar Sari Village.
The better the attitude of the respondent is, the better the behavior of the PSN is. This is supported by a study conducted by Riyanto (2015) stating that there was an influence between respondents' good attitudes and behavior with the behavior in PSN DHF. This means that if the respondent has a good attitude towards the importance of maintaining cleanliness and prevention of DHF, it will also have a good impact on the behavior of the DHF PSN and vice versa. It means that if the attitude of the respondent is not supportive, it will have less impact on the behavior of the PSN.

Attitude is a reaction or response that is still closed from a person to a stimulus or object. Attitude is a form of evaluation or feeling of reaction to an object. Attitudes are influenced by several factors, namely personal experience, the influence of other people who are considered important, the influence of culture, mass media, educational institutions, religious institutions, and the influence of emotional factors. A study conducted by Lintang, et al., (in Azwar, 2016) showed that there was a relationship between drinking the water reservoir and the presence of Aedes aegypti larvae.

Based on the theory proposed by Saptono, human attitudes will carry out activities if they have positive knowledge. Then, if they have less knowledge, it will affect the mother's own knowledge.

According to Allport, attitude is a mental readiness that has a component of trust, emotional life and evaluation of objects and tendencies to act. The results of this study regarding people’s attitude are in line with a study conducted by Rahmaditia showing that there was a relationship between the attitude of the respondents (mothers) to the actions of prevention of DHF conducted by the respondents, which had p value <0.05, namely p = 0.007. In addition, the results of a study conducted by Macpal showed that there was a relationship between attitude and prevention of dengue hemorrhagic fever in the community of Batu City III, Manado City with p value = 0.01 (p < 0.05) (Alfi, Hidayat, and Girsang 2018).

Further, the results of this study is in line with the results of a study conducted by Sagala showing that 96% of respondents in the working area of the Kuraji Padang Public Health Center had a good attitude. Whereas according to Fenny Astari's study, there were 100% respondents in the village of Aur Kuning Bukit Tinggi who had positive attitude. A person's behavior is influenced by knowledge, attitudes, beliefs and so on, so positive public attitudes will behave in their own behavior.

Attitudes affect the prevention of dengue hemorrhagic fever (DHF) because people are willing to work together and are willing to take actions to prevent the occurrence of a disease. The results of this study are in line with a study conducted by Rinaldo showing that most respondents (63%) had good knowledge about dengue hemorrhagic fever (DHF) prevention, the attitude of most respondents (73%) regarding the prevention of DHF was good, and the actions of most respondents (66%) regarding the prevention of DHF was good. In addition, Rinaldo’s study showed that based on the results of bivariate analysis, there was no relationship between knowledge and prevention of dengue fever, and there was no relationship between attitude and prevention of dengue fever.

In this present study, it was found that there was an influence between people’s attitudes towards the prevention of DHF. A positive attitude will influence the right action. The more positive the attitude of the respondent, the better the efforts to eradicate the dengue hemorrhagic fever vectors. It is in line with a study conducted by Tyas Rahmaditia regarding the relationship between knowledge and attitudes towards dengue prevention measures in children.

A study conducted by Duhita regarding the relationship between knowledge and attitudes towards dengue hemorrhagic fever prevention measures states that attitude is not the same as behavior and behavior does not always reflect a person's attitude, in which a person often shows behavior/actions that are contrary to his attitude.

The results of this present study are in line with the other previous studies regarding the relationship between attitude and the incidence of dengue hemorrhagic fever (DHF) in the village. A study conducted in Denpasar showed that there was a relationship between attitudes and tendencies to act. People will agree to act if people around them have positive attitude (Waluyo and Solikah 2021). The results of this present study are also in line with a study conducted by Wati et al., showing that there was a relationship between people's attitude and efforts to prevent dengue hemorrhagic fever (DHF) in 2015 (Fatimah 2020).

The Effect of Access to Information on Prevention Dengue Hemorrhagic Fever (DHF)

Based on table 2, bivariate analysis of access to health information on dengue prevention showed that respondents who received information about dengue hemorrhagic fever were 49 people (81.6%), while those who did not received information were 11 people (18.3%). The p-value showed p = 0.000 or p
> 0.05, which means that there is an effect of access to health information on the prevention of dengue hemorrhagic fever (DHF) in Mekar Sari Village.

It is in line with a study conducted by Anggraini (2018) stating that information influenced people's actions in preventing dengue hemorrhagic fever (DHF). Then, a study conducted by Langkap (2011) states that in terms of prevention DHF families generally have had good knowledge, and good knowledge could not be separated from efforts to disseminate information carried out by many parties with various channels, sources and media delivered to families. This study is supported by Hasiyimi who states that 65% of respondents who knew the cause of DHF, 60.2% respondents who knew mosquito breeding places, 76.4% respondents who knew how to eradicate mosquito nests and larvae and 48% respondents who knew how mosquitoes bite during the day. Regarding the information about dengue hemorrhagic fever (DHF), the respondents obtained knowledge about dengue hemorrhagic fever (DHF) from health workers, television and radio media, magazines or newspapers, and notifications from friends. Then, the information obtained must also be accurate, timely and relevant. This will have an impact on attitudes that are taken and carried out with actions to put their knowledge into practice. People have access to new information related to DHF disease and, with this information, people's knowledge about dangers and prevention of dengue hemorrhagic fever (DHF) can increase, so that it will be internalized in the form of attitudes and applied in real life (Putri n.d.).

Providing information about ways to achieve a healthy life, how to maintain health, how to avoid disease and so on will increase people's knowledge about the efforts to prevent dengue hemorrhagic fever (DHF). Having adequate knowledge will affect the environment by washing hands and taking photos. Sensing through various senses, most of the knowledge is obtained through sight and hearing. Knowledge or cognitive is the closest factor, namely by inviting community leaders and religious figures in maintaining health (Kemenkes RI 2019).

Behavior based on knowledge will last longer than behavior that is not based on knowledge. Knowledge is believed to be true which then forms new behavior that is felt as the owner. Pakpahan et al., (2021) states that attitude is a pattern of behavior or anticipatory, predisposing to adapt in social situations, in other words, attitude is a response to late conditioned social stimuli. Based on the results of the present study, if someone has negative attitude, it will make bad habits, and it make people will not solve the problems of dengue hemorrhagic fever (DHF) as soon as the problems emerge. While, if people think positively, the actions taken must be good in order to prevent outbreaks and dengue hemorrhagic fever (DHF).

Access to information affected the prevention of dengue hemorrhagic fever (DHF) because people carried out disease prevention and mutual cooperation due to information from the public health center. These results are in line with a study conducted by Bagoes Widjanarko, et al., (2018) showing that as many as 63% of respondents had access to midwifery care, respondents who access information that can be reached by them and as many as 73% of respondents had easy access to information. In addition, he adds that based on the results of his study p value obtained was 0.475, this means that there is no significant relationship between the ease of access to information and the practice of preventing dengue hemorrhagic fever (DHF). Based on the results of the study, discrepancies in using access to health facilities were found (Irwan 2017). Easy access to health information is the most important factor. Information has a great influence in shaping people's opinion or belief.

CONCLUSION

There was an influence of people's knowledge, attitude, and access to information on the prevention of dengue hemorrhagic fever (DHF) in Mekar Sari Village Asahan District in 2020.

SUGGESTIONS

It is hoped that the village head will increase mutual cooperation and announce how to live a clean and healthy life.

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